WV Nongame Wildlife & Natural Heritage

NEWS

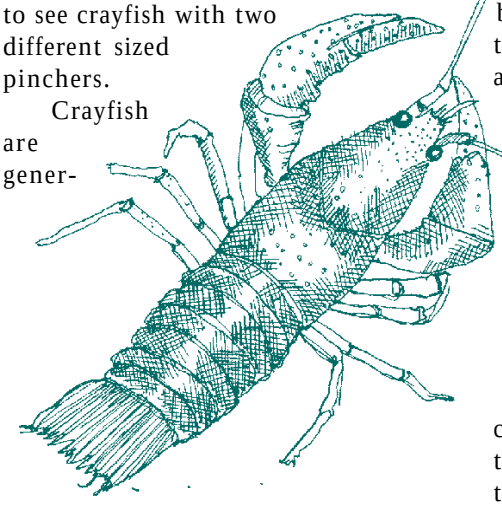
Bob Wise, Governor VOLUME 18, NUMBER 2 SUMMER 2001

Crawdad Crazy in the Mountain State

Crawdads, crawfish, mudbugs, or crawcrabs. These are just a few of the many common names given to the creatures you played with in the stream as a kid. Maybe you have used them as fish bait or tasted them at a restaurant. They live in almost every stream and river in West Virginia, but chances are you have not given crayfish much thought.

Crayfish belong to the phylum *Arthropoda*, animals that are characterized by a hard but flexible exoskeleton. As they grow, crayfish must periodically discard the old shell and replace it with a new and larger one. Sometimes during molting crayfishes may lose an appendage, frequently the pinchers.

While this may be a huge problem for most animals, crayfish can grow them back. However, they are usually not the same size and shape, or have the same sculpting as the original. This is why it is very common to see crayfish with two different sized pinchers.



Crayfish are generally inactive during the day, unless disturbed, and use the nighttime to prowl around in search of mates and food. In general, crayfish feed opportunistically on a wide variety of plant and animal materials. They are very helpful in breaking down dead plant material (detritus) that is resistant to decomposition.

Crayfish are also an important food source for many animals such as fish and aquatic salamanders. For example, West Virginia's largest salamander, the hellbender, preys almost exclusively upon crayfish. Humans consume crayfish as well. The total annual harvest of crayfish for food in the United States is 53,000 metric tons, with 90 percent from Louisiana alone.

Most West Virginia crayfish live in streams and rivers where they hide under the rocky substrate for protection from predators. Not all crayfish live in streams, however. Three West Virginia species of crayfish are considered to be primary burrowers. They make their homes in the ground in a variety of places such as streamsides, ditches, backyards, or parking lots. Crayfish populations in these burrows can be quite large with extensive highways for underground travel. Some of these can be spotted above ground in chimneys that are found outside the burrow entrances.

There are over 450 species of crayfish worldwide. Just over half of these are found in North America with the highest diversity here in the Appalachian Mountains.

West Virginia is home to 21 species and subspecies of crayfish; eight of these are considered rare and are monitored by the Nongame Wildlife and Natural Heritage program. Two of these species are found only in West Virginia, and no other place in the world! The Elk River crayfish inhabits the Elk River drainage of Nicholas, Webster, Pocahontas, and Braxton counties, and our cave crayfish occupies approximately 15 caves in Greenbrier and Pocahontas counties.

While some crayfish species are robust and can live in many types of water conditions, most species are sensitive to poor water quality and habitat destruction. A major problem facing crayfish populations (not only in West Virginia, but also around the world) is bait bucket introductions. Fishermen bring non-native crayfish from one watershed and release them into another. These crayfish are then replacing many native species by outcompeting them for food and shelter.

No matter what you call them, crawdads or crayfish, this interesting and unique group of animals is an important part of West Virginia's native fauna.

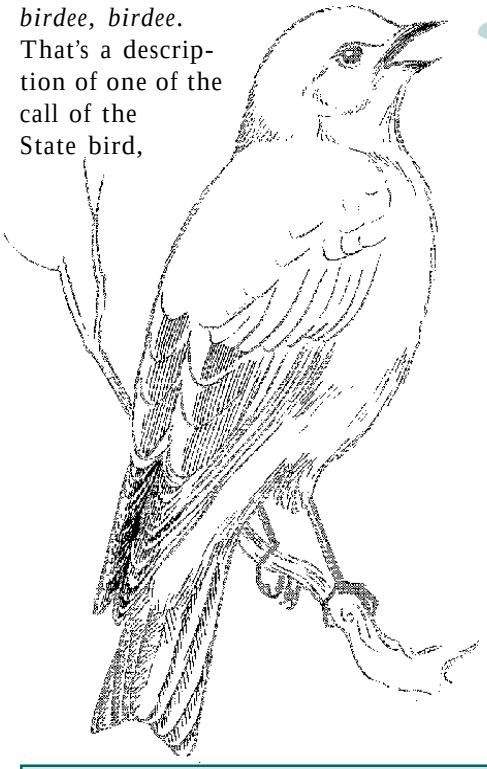
--Jennifer Wykle

For more information, see Crayfishes of West Virginia (Decopada: Cambaridae).

Inside this issue...

Exploring How and Why Birds Sing

Beginning in mid-winter and continuing into mid-summer, the West Virginia hills and valleys come alive with a loud *sa-wheeet, sweet, sweet, watcheer, wah-cheer, wah-cheer, birdee, birdee, birdee.* That's a description of one of the call of the State bird,



the northern cardinal or redbird. It's a versatile songster with more than 25 variations in its repertoire.

Once one hears that wonderful oration, one has to wonder, how and why do birds sing? Actually, birds don't sing. They play instruments, a more complicated process than the account that follows. They make musical sounds by means of internal organs called the trachea and the syrinx, commonly known as the windpipe and the voice box.

The muscle-like syrinx or voice box is located between the base of the windpipe and the lungs. The sound is produced by forcing air out of the lungs and vibrating the membranes of the voice box which differs in each species, thus each species renders a different sound.

Light and temperature dominate bird activities. As sunlight increases in spring, the rays strike the birds eyes, triggering a hormonal response that results in the development of the sex glands in both males and females. The intensity and duration of sunlight influence the singing and breeding periods, also daily and seasonal movements. A reverse action takes place as the sun retreats in autumn and winter.

Birds are said to sing or "play their instruments" because they're happy. Bachelor birds sing more before they are mated than after they acquire a mate.

The male sings to attract a mate and maintain a territory, an arbitrary area that provides adequate food for him, her and eventually their brood. The song serves as a warning to other males of the same species: "Stay away from the sound of my voice and the lady in my life."

The song also assures the female that all is well on the home area as she incubates the eggs and the hatchlings. Calls or alarm notes are emitted as a danger signal, to communicate and assemble a flock.

Do the females "sing"? Not many do. One that does, the rose-breasted grosbeak, a relatively common species that looks like an over-sized streaked sparrow, occurs in the summer in wooded areas in some parts of the state.

Birds are said to sing or "play their instruments" because they're happy. Bachelor birds sing more before they are mated than after they acquire a mate.

Experienced bird watchers go afield during spring migration and identify dozens of species by their songs or more correctly the tunes they play. Go out in late May or early June away from city noise, listen and try to hear as many different tunes or songs as you can. There's more to a bird's "song" than meets the ear.

—George H. Breiding

Editor's Note: Mr. Breiding has been a major ornithologist, naturalist and environmental educator in the state for more than 35 years.

CARA Returns!

As reported in our winter issue, CARA in its entirety was not enacted in the 106th Congress. However, a very similar CARA (HR 701) is alive and well and has been reintroduced into the U.S. House of Representatives in the 107th Congress.

CARA would provide $3.1 billion annually from outer continental shelf oil and gas receipts to a variety of conservation programs, including $350 million for wildlife.

At this writing, 190 Congressmen of both parties have co-sponsored the bill, including Representative Nick J. Rahall, Jr., who is currently ranking Minority Member of the House Resources Committee. The magic number is 218 cosponsors to enable the legislation to pass the House.

CARA may be taken up by the House Resources Committee as early as mid-June, with a July floor vote, so please contact your representatives today and urge them to co-sponsor CARA. You may also wish to write to your Senators to seek their support also, as CARA will be reappearing in the Senate soon. Remind them that wildlife needs are great, requiring long term, reliable funding, for at least the $350 million level nationwide as outlined within HR 701.

The WVDNR Wildlife Resources Section (WRS) is eligible for $480,000 for projects that address "wildlife with the greatest conservation need," as well as wildlife related educational and recreational projects, under an appropriation that passed in the final days of the 106th Congress. WRS staff are currently planning projects for this one time appropriation.

For more information on CARA, or how you can help, write to the NWNHP or email kleo@dnr.state.wv.us.

Rare Species at a Glance

New River Crayfish

Scientific name: *Cambarus chasmodactylus*

State status: Rare in West Virginia, with twelve occurrences known from only one drainage.

Global status: Common throughout most of its limited range, but may be rare in some areas.

General description: The specific epithet, *chasmodactylus*, provides a good description of this crayfish. With *chasma* meaning opening and *dactylus* meaning finger, it is no surprise that the New River crayfish has claws (chela) with large, gaping fingers. On larger specimens, it is possible to put one's finger through the gap. The color of this crayfish varies from tan to blue with red margins, and the surfaces of the chela, abdomen and legs are turquoise. The New River crayfish can reach a length of about five inches.

Habitat: The New River crayfish prefers larger streams, which are clean and flowing. They are most often in pools that have some current, as opposed to riffle areas. Once under the rocks, the crayfish push the sand and gravel from under them. It has also been noted that the New River crayfish is uncommon in areas with the hellbender, as hellbenders feed upon crayfish.

Total range: This species is restricted to the New River drainage in North Carolina, Virginia and West Virginia.

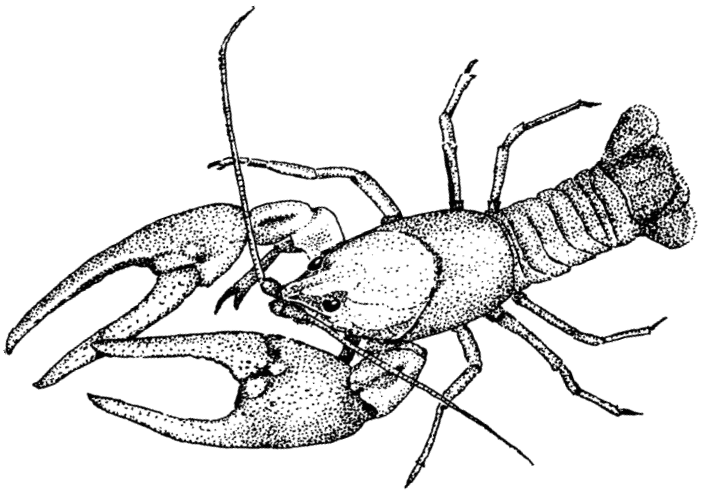


Illustration by Sam Norris

State range: In West Virginia the New River crayfish is found only in the Greenbrier River drainage in Greenbrier, Monroe and Pocahontas counties.

Threats to the species: The degradation of water quality due to agriculture, development and logging could threaten this species.

Best time to look: Look for the New River crayfish during the spring and summer.

Source: Jezerinac, R. F., G. W. Stocker, and D. C. Tarter. 1995. *The Crayfishes (Decapoda: Cambaridae) of West Virginia.*

Virginia mallow

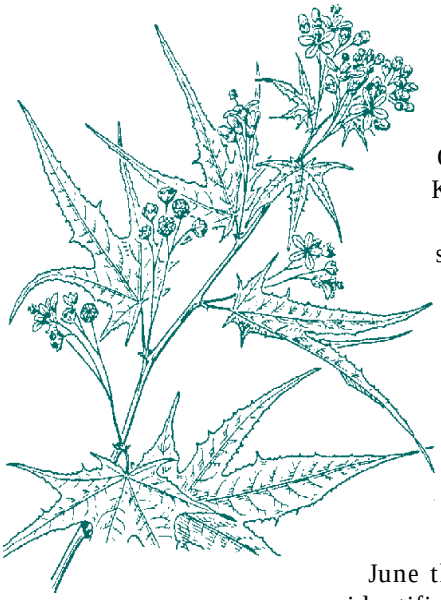
Scientific name: *Sida hermaphrodita*

State status: There are over 40 occurrences of Virginia mallow in West Virginia; however, the range is restricted, and two of these occurrences are from the 1800's.

Global status: Rare throughout its range.

General description: The Virginia mallow can be up to nine feet tall, and is characterized by its large, deeply lobed leaves. The three to seven lobes are sharply pointed (lanceolate) and serrated, with the middle lobe the longest. The small, white flowers originate at the axis of the main stem and leaf, and form loose, terminal clusters (panicles).

Habitat: In West Virginia this species is usually found on floodplains and in moist areas along roadsides and railroads, seeming to prefer disturbed areas.



Reprinted from Flora of WV

Total range: Virginia mallow is known from the Susquehanna and Potomac drainages of Pennsylvania, Maryland, Virginia and the District of Columbia; and from the Ohio River drainage of Ohio, West Virginia, Kentucky and formerly Tennessee.

State range: This species is nearly restricted to the Kanawha River, but also occurs at a few sites on the Ohio River. It is found in Cabell, Fayette, Kanawha, Mason, Putnam and Raleigh counties.

Threats to the species: Virginia mallow is threatened by the manipulation of its habitat due to herbicide spraying, mowing, filling of wet areas and flood control projects.

Best time to look: Look for the flowers from June through August, but this species can be identified by its distinctive leaves during early spring and fall.

Sources: Gleason, H. and A. Cronquist. 1963. *Manual of Vascular Plants of Northeastern United States and Adjacent Canada*; Nongame Wildlife and Natural Heritage Program files.

--Barbara Sargent

DNR Receives EPA Grant to Monitor Stream Health

The Environmental Protection Agency (EPA) has awarded the WVDNR a two-year, $400,000 grant to monitor the health of fish communities in the Mountain State's small to mid-size streams.

This grant is an offshoot of a 1998 project in which the DNR collected various fish and water quality data for the EPA's Environmental Monitoring and Assessment Program (EMAP).

According to Dan Cincotta, project manager, EMAP was conducted to evaluate the effectiveness of the Clean Water Act (CWA) in the Mid-Atlantic Highlands area of the central Appalachian Mountains and to refine biological collection techniques for future national assessments.

"Now that that project has ended, the EPA is encouraging all states to utilize EMAP techniques in current CWA monitoring programs," Cincotta says. "Since WV is one of only a few states in the region not using fishes in their bioassessment effort, we were offered this grant to develop a fish Index of Biotic Integrity (IBI)."

An IBI is considered by most fish biologists today to be the best method to evaluate the health of fish communities.

"The IBI developed for this project can be used by DNR to develop a state of the streams report for West Virginia and to make decisions regarding gamefish stocking, fish kill evaluations, gamefish regulations, stream and watershed restoration projects, mitigation programs and rare species assessments," Cincotta explains. "It would also be of significant value to the WV Department of Environmental Protection in their permitting, non-point source pollution, water quality and enforcement programs."

The two-year study will include reviewing past fish surveys for IBI suitability, collecting new EMAP compatible fish data at over 100 different monitoring stations throughout the state, and then developing the IBI with the help of the EPA's Office of Research and Development in Cincinnati.

Another aspect of the study will be utilizing these new data to evaluate the maximum levels of pollution that will be allowed to be discharged into streams that have been designated by WV's DEP as having problems. This discharge issue, which is known in the CWA as Total Maximum Daily Loads (TMDL's), will be researched by EPA's Office of Research and Development in Duluth, MN.

"We are extremely fortunate to receive this grant as it will give WV resource agencies the information necessary to make good decisions that will protect and manage our water quality and fishing resources for future generations of West Virginians," says Cincotta.

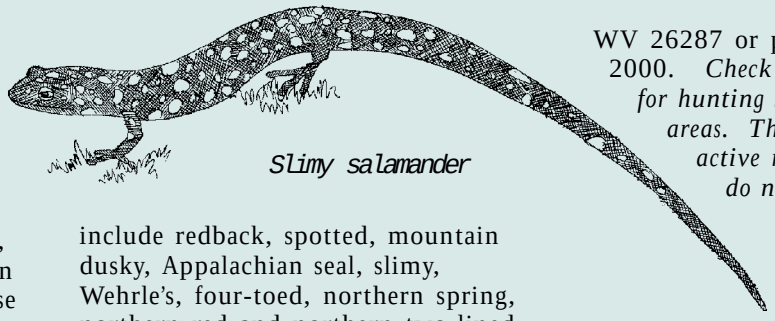
--Nanci Bross-Fregonara

WV Wildlife Viewing Guide: *Fernow Experimental Forest*

Description: The Fernow Experimental Forest is located in one of the most mountainous regions of the Mountain State and is an active research forest. The purpose of this experimental forest is to foster a better understanding of West Virginia's forests, water, soil and wildlife resources in order to protect and conserve these valuable resources. This research area was carved from the Monongahela National Forest in 1934 because it is representative of many of West Virginia's forests.

Viewing Information: Although the Fernow is fairly small at 4,700 acres, it is highly diverse, well roaded, and provides numerous wildlife viewing opportunities. The forest is an excellent place to see neotropical migratory songbirds, several species of squirrels and occasionally black bears.

The amphibian and reptile populations are diverse. Salamanders include redback, spotted, mountain dusky, Appalachian seal, slimy, Wehrle's, four-toed, northern spring, northern red and northern two-lined. The Appalachian seal salamander can be found during the day under rocks in cool mountain streams. The slimy salamander is active at night or in the afternoon following warm rains. The four-toed salamander prefers hardwood forests, but during spring, females migrate to bogs to deposit eggs.



Slimy salamander

Fernow staff provide "show-me" trips, which provide a lecturer or a guided tour through the forest. Contact the Timber and Watershed Laboratory, Nursery Bottom, Parsons, WV 26287 or phone 304-478-2000. *Check with the manager for hunting seasons and affected areas. The Fernow is an active research forest; please do not disturb the forest.*

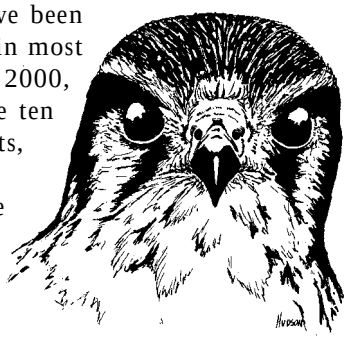
Directions: At the junction of U.S. Highway 219 and WV State Rt. 72 in Parsons, follow US 219 north 0.2 miles (just over the bridge) to the sign for Otter Creek Wilderness. Turn right and then make an immediate left (the road is not marked). Proceed 1.3 miles to the fork and bear right at the sign for Forest Road 701. Go 0.2 miles to the entrance.

Editor's Note: The WV Wildlife Viewing Guide by Mark Damian Duda is available at bookstores throughout the state and can be purchased from the WV DNR by calling (304)637-0245.

Notes From The Field

EAGLES AND FALCONS

It looks like 2001 will be a banner year for bald eagles in the Mountain State. Twelve nests are active and as of this writing, chicks have been observed in most nests. In 2000, there were ten active nests, but two nests were abandoned early in the nesting season.



This year, all ten pairs are doing well, and a new nest was built on Blennerhassett Island in the Ohio River near Parkersburg (but abandoned in May). This is the first confirmed nesting in the Ohio River drainage of West Virginia.

For the third consecutive year, a pair of peregrine falcons nested on North Fork Mountain. Additional peregrines were observed on other portions of North Fork Mountain and in the New River Gorge, but no additional nests have been discovered. Readers are encouraged to report sightings of peregrine falcons and potential nesting pairs of bald eagles by calling 304-637-0245. The results of the 2001 nesting season will be presented in the fall issue.

HELLHOLE BAT SURVEY

This winter, biologists once again descended into Hellhole Cave in Pendleton County to monitor the bat populations in West Virginia's most important bat cave. The cave is entered by rapelling nearly 160 feet into the Entrance Room.

Illustration by Sam Norris

During the 2001 survey, the 17 cavers on the survey were divided into five survey crews, and each crew covered a different portion of the cave. Even with 135 person-hours of survey time, the entire cave could not be examined. However, all areas where endangered bats occur were visited.

A total of 126,988 bats of seven species were tallied. Bat numbers appear stable compared to the 1999 survey results. Nearly 8,600 endangered Indiana bats were observed and almost 5,300 endangered Virginia big-eared bats were noted. Both of these represent the largest concentrations for these species in West Virginia.

The most abundant bat was the common little brown bat. Nearly 113,000 little brown bats were tallied, but it is estimated (based on previous surveys) that at least an additional 40,000 bats hibernate in portions of the cave not visited in 2001. Other bat species observed were: northern long-eared bat, small-footed bat, eastern pipistrelle, and big brown bat.

The WVDNR thanks the people and agencies who assisted with the Hellhole bat count. The 2001 crew included biologists and skilled cavers from Kentucky, Maryland, New York, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia.

An special thank-you goes to the owner of the cave who has assisted in protecting this valuable resource.

--Craig Stihler

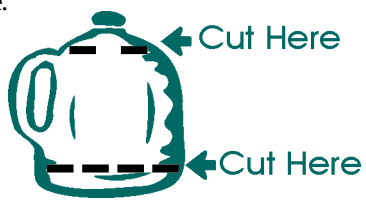
Kids Krafts

Make A Fisheye Waterscope

Have you ever wanted to clearly see through moving water and explore the bottoms of shallow streams and ponds and get a real fish eye view?

Here's a quick, inexpensive and easy way to make a useful tool to help you clearly see all the amazing things under water.

First rinse out a half gallon plastic juice or milk jug. Make sure it has a handle. You won't be needing the plastic screw top. Next get a parent or big kid to help with cutting off the bottom about one inch from the bottom. Next cut off the top below the top of the jug where it begins to narrow. Make sure you keep the handle.



Now simply cut a piece of see through plastic food wrap about twice the size of the bottom. Stretch it tightly over the bottom and secure it to the sides by using duct tape. Try not to get any wrinkles and make sure you don't get any tape on the bottom to obstruct your view. That's it. You've just made a waterscope!

Now comes the fun part. Put on an old pair of sneakers or other shoes you can get wet, roll up your pants and go walking in the water. Put your new waterscope in the water vertically while you look through the top. Use the handle to hold the scope and make sure no water comes through the top or leaks around the sides. Now that's a fish-eyed view of the deep!

This activity was adapted from the Missouri Conservationist magazine.

NWNHP Awards Research and OWLS Grants

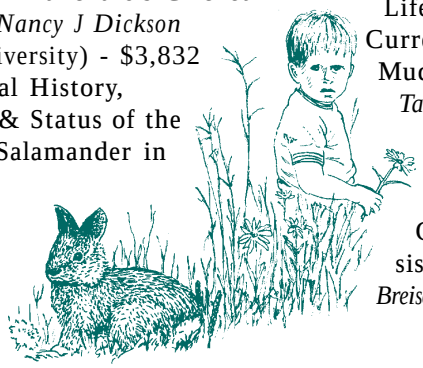
Every year since 1994, the Nongame Wildlife and Natural Heritage Program of the WVDNR awards grants to individuals and organizations conducting research or projects that benefit wildlife and plants. The year 2001 proved to be a banner year with 26 applicants to the Cooperative and Research Program. Of those, 14 were funded.

The DNR is proud to support efforts that increase our understanding of the natural world and those that increase benefits to wildlife by enhancing or creating wildlife habitat. DNR also strongly supports education opportunities for people to learn about the value of wildlife. Over $66,000 was awarded this year for the research and cooperative projects listed below.

Research Grants

The Natural History & Possible Extirpation of Blanchard's Cricket Frog in WV. *Nancy J Dickson* (Marshall University) - $3,832

The Natural History, Distribution & Status of the Smallmouth Salamander in WV. *Robert Fiorentino* (Marshall University) - $4,759



Home Range & Behavior of Timber Rattlesnakes on the Westvaco Wildlife & Ecosystem Research Forest, Adolph, WV. *Jennifer Adams* (Marshall University) - $4,040

Northern Saw-whet Owl Migration in Maryland & WV. *Kevin Boyle* - $2,954

Reproductive Success of the Grasshopper Sparrow on Reclaimed Mountaintop Removal/Valley Fill Mines. *Petra Bohall Wood* (West Virginia University) - $6,400

Dispersal Patterns of Juvenile Allegheny Woodrats at Cooper's Rock State Forest, WV. *Petra Bohall Wood* (West Virginia University) - $6,400

A Vulnerable Species at the Edge of its Range: Classification of WV Communities Affected by Balsam Wooly Adelgid. *Leah Ceperley* (Antioch College) - $6,830

Status of the Cobblestone Tiger Beetle. *Robert Acciavatti* (US Forest Service) - $2,074

Life History, Seasonal Activity & Current Status of the Common Mudpuppy in WV. *Mizuki Takahashi* (Marshall University) - $5,506

The Distribution & Natural History of the Genus Clemmys in WV, with Emphasis on the Bog Turtle. *Ariana N. Breisch* (Marshall University) - $4,935

WV Flora Atlas; Investigation of Poorly Documented Plant Species. *Donna Ford Werntz* – (West Virginia University) - $4,966

Cooperative Projects Grants

Wildflowers On the Trails of Blackwater Falls State Park. *Eleanor Palko* (Canaan Valley Institute) - $3,150

Wildlife in Your Backyard.*Vickie Markley* (Oglebay's Good Zoo) - $1,423

Using Native Wildflowers for Erosion Control at Adaland. *Dr. Ann Serafin* – (Adaland Mansion Development Inc.) - $2,091

2001 OWLS Grants

Grandfather's Tree Owls – Blackshere Elementary School; Mannington, WV ($1,996)

Dogwood Hollow Nature Trail – Mason County Career Center; Point Pleasant, WV ($1,999)

EEK! Environmental Education for Kids! – North Jefferson Elementary; Kearneysville, WV ($1,765)

Sissonville Outdoor Learning Site – Sissonville Elementary; Sissonville, WV ($767)

Old Main Outdoor Learning Site – Summersville Elementary; Summersville, WV ($985)

Tucker County High Outdoor Learning Site – Tucker County High; Hambleton, WV ($2,000)

Grant Deadlines Announced For 2002

Research Projects

The Research Projects program provides grants on a competitive basis for any innovative research project that benefits the state's nongame fauna and flora. Although all research proposals will be considered, priority will be given to projects that address the population status or natural history of species in need of study in West Virginia.

All formally organized private or public colleges and universities, or qualified individual researchers are eligible to submit proposals.

Cooperative Projects

This program provides grants on a competitive basis for innovative projects ranging from habitat improvement to the publication of books. Projects must benefit nongame wildlife or botanical resources in West Virginia and incorporate some aspect of education, research, habitat management, conservation, or species protection,

Any organized club or organization in WV; persons affiliated with education facilities, industry, or government agencies; and private individuals are eligible to submit proposals.

Outdoor Wildlife Learning Sites

The OWLS program provides grants up to $2,000 to any public or private school on a competitive basis for the creation of outdoor classrooms at or near school grounds. OWL sites are created to facilitate multi-disciplinary learning opportunities as well as creating or improving habitat for a variety of native wildlife.

The deadline for all proposals is November 1, 2001.

For application booklets, contact: Education Grants Coordinator, WVDNR , P.O. Box 6, Elkins, WV 26241 or call (304) 637-0245.

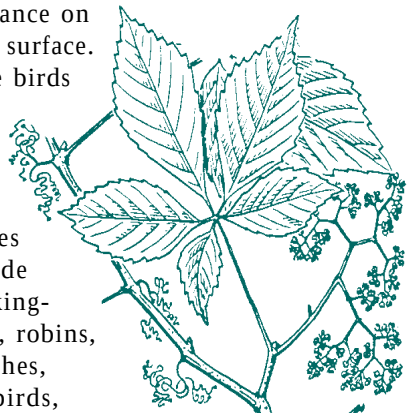
Plant Lore of the Mountains

Virginia Creeper's Pro's Outweigh the Con's

Virginia creeper, *Parthenocissus quinquefolia*, has always intrigued me. The vine with heavily veined, dark-green, palmate-shaped leaves may grow prostrate across the ground or climb thirty feet straight up any surface. Consequently, Virginia creeper is frequently found spreading like a fan across the south or south-western sides of large buildings, particularly those with brick walls.

While the dark-green foliage creates a heavy arbor on the sides of buildings, trees and utility poles all summer, it is not until late summer that Virginia creeper matures into the stunningly gorgeous beauty that it is destined to be. The foliage turns a brilliant red announcing to over thirty species of birds that its dark-blue berries are ripe for their feasting. As fall progresses, the leaves fade to a lovely soft rosy pink.

Beginning in early July, the plant produces its tiny flowers. According to the *Flora of West Virginia*, the flowers grow in compound cymes or panicles in the leaf axils. Each flower bears five petals with five spreading stamens. By the first of August the blue berries have matured. The blue-black fruits get a whitish powdery substance on their surface. Some birds that feed on the berries include mocking-birds, robins, thrushes, bluebirds, woodpeckers and brown thrashers.



Reprinted from Flora of WV

Adding Virginia creeper into our landscape, can create an opportunity to attract the magnificent sphinx moths to our backyards, as well as providing food and some cover for a host of birds. However, inviting Virginia creeper into our suburban or urban yards is not an invitation to be made without pre-establishing a strategic location and a set of behavior control tactics. Virginia creeper tends towards aggressive and opportunistic behavior much like we humans.

First, Virginia creeper has a unique way of climbing. Not only does it produce curling tendrils, much as greenbrier and grape, but Virginia creeper also generates tiny adhesive discs at the tips of each tendril that come in contact with a surface it can stick too. Several sources have quoted that Darwin once did an experiment with the plant and discovered that if just five discs were to grow on one tendril, their combined strength could support ten pounds.

Once attached, these discs are extremely difficult to pull free from a surface. Removing the plant from a surface can peel paint, dislodge vinyl siding and bring down gutters.

The plant will grow as high as any surfaces it can cling to, and with its curling tendrils expand onto nearby surfaces. Consequently, you should provide a trellis, or start a plant against an outbuilding away from your house or garage. But what an incredibly beautiful addition it can make to your landscape if you can carefully nudge and direct its growth over an arbor or trellis to create a border. If you have a large tree, you can establish a plant at the base of the tree. Virginia creeper does best in full sunlight for at least part of the day.

--Emily Grafton

Who Wants To Be A Biologist?

Congratulations to our third contest winner, *Donald Mapes* of *Harrisville* whose name was picked at random from all the received correct entries. Donald correctly answered last issue's question: What is WV's state soil? The answer is Monongahela Silt Loam.

We received answers ranging from Lime all the way to Red Clay, with many folks never knew we even had a state soil. Other correct answers were submitted by: *Mark Buchanan, Huntington; Anita Deck, Crab Orchard; and John Aliveto, Elkins. Other submissions were from Brittany Massie and Lindsey Wellman, Prichard; Vern Alderman, Delray; and Lyla Rothwell, Peterstown.* Thank you all for playing!

Here's this issue's question. We all know that we have only two species of venomous snakes in West Virginia: the northern copperhead and timber rattlesnake.

How many people have died from the bite of a northern copperhead in West Virginia in the last 35 years?

Official Rules:

Clearly print your answer on a postcard along with your name, address and phone number and send it to: WV DNR, Nongame Wildlife & Natural Heritage Newsletter, P.O. Box 67, Elkins, WV 26241, Attention: trivia contest. or email nbrossfregonara@dnr.state.wv.us.

Only one postcard will be accepted per household, per question.

Postcards for this issue's contest question must be postmarked by *August 15, 2001* and this issue's winners will be sent the WV Watchable Wildlife Guide.

Please do not call our office and ask for the answers. That would be too easy, but you can visit our website: www.dnr.state.wv.us and search for clues.

Employees of the WV DNR and the Nongame Wildlife & Natural Heritage Program and their families are ineligible. Only one winner will be chosen for each question.Each winner will be chosen at random from all correct entries received by the postmarked deadline.

Children's Book Reviews

Meeting Trees

by Scott Russell Sanders
Ages 7-11,
National Geographic Society

In this fine informational picture book, young Scott remembers the special walks in the woods with his father as being a time to "mosey along." "Trees don't rush about, so why should we," his father liked to say. Scott shares his mnemonic devices to remember the types of bark and shapes of leaves (the beech tree has smooth gray bark like the skin of a hippo; leaves of the redbud are like valentine hearts).

The detailed illustrations help young naturalists visualize and remember. The information provided is accessible to even the youngest of hikers, but the true beauty of this book is the message-- knowing the names of trees is less important that knowing the pleasure of their company. Share the book and then go outside, run your fingers over bark, and listen to the wind in the branches.

Reading the Wild

by Bev Doolittle and Elise MacLay
All ages,
The Greenwich Workshop

Bev Doolittle is best known for her camouflage Native American and wildlife art. She has dedicated her talent to another splendid picture book that is worthy of a spot on any coffeee table. Her intricately detailed water-color paintings give us clues from both Native American lore and modern science to understanding the plants, trees, birds, fish, and other life forms we share with the earth.

She inspires an appreciation of Native American wisdom, and an awakening to the wonders unfolding in nature-if we only take time to "read the wild" and learn what it has to teach.

--Sue Talbott, Vandalia Educational Services, 1-800-637-0566 or email: vandalia@msys.net.

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